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TITLE: HCMM - Soil Moisture in Relation to Geologic Structure and Lithology, Northern California

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General Statement:

Several sets of imagery have been received during the quarter. In general, the quality of the imagery for geologic purposes remains poor, and the lack of related Day-Nite imagery has hindered the progress of the project.

Accomplishments:

All imagery received were examined for usefulness to the project and the better ones were examined in some detail for geologic interpretation.

Significant Results:

Detailed examination of Nite-IR images of intermontane basins in arid and/or semiarid areas of California discloses a ring or halo of relatively lighter greytone around the edges of each basin. Intermontane basins in the Northern Coast Range, however, do not show this thermal haloing. The topographic elevation of the haloes in arid basins shows seasonal variation, but it is present on nearly all images. A similar halo encircles many of the volcanoes on the Modoc Plateau and Southern Cascade Range. Although the halo around the arid intermontane basins can possibly be explained in relation to the location of alluvial fans (and perhaps water content of the rocks), a similar explanation cannot be made for the haloes around volcanoes or for the lack of haloes around basins in the Coast Range. Atmospheric thermal layering may be an alternative explanation; however, this explanation is also riddled with inconsistencies. Research is continuing.


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